**Assessment Rubric: Locating Images in Lenses**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Categories and Criteria | 50 – 59% (Level 1) | 60 – 69% (Level 2) | 70 – 79% (Level 3) | 80 – 100% (Level 4) |
| **Knowledge and Understanding** | | | | |
|  | The Student | | | |
| **Understanding how images produced by a converging and diverging lens differ by movement of a light source.** | Demonstrates limited knowledge of the concepts, principals and laws with convergent lens. | Demonstrates some knowledge of the concepts, principals and laws with convergent lens. | Demonstrates considerable knowledge of the concepts, principals and laws with convergent lens. | Demonstrates thorough knowledge of the concepts, principals and laws with convergent lens. |
| **Thinking and Investigation** | | | | |
|  | The Student | | | |
| **Generation of hypotheses and/or predictions about possible outcomes using a convergent lens.** | Generates hypotheses/predictions with limited effectiveness. | Generates hypotheses/predictions with some effectiveness. | Generates hypotheses/predictions with considerable effectiveness. | Generates hypotheses/predictions with a high degree of effectiveness. |
| **Records required observations for both convergent and divergent lens.** | Few observations are recorded for the different lenses. Not all of the required questions are answered | Some observations are recorded for the different lenses. Some of the required questions are answered. | Most of the observations are recorded for the different lenses. Most of the required questions are answered. | All of the observations are recorded for the different lenses. All of the required questions are answered. |
| **Evaluating the experimental procedure by identifying potential sources of error in the investigation.** | Rarely evaluates the experimental procedure by identifying the potential sources of error. | Occasionally evaluates the experimental procedure by identifying the potential sources of error. | Regularly evaluates the experimental procedure by identifying the potential sources of error. | Consistently evaluates the experimental procedure by identifying the potential sources of error. |
| **Drawing Conclusions on the basis of information gathered on the different lens.** | Few inferences or conclusions supported by observations. | Some inferences or conclusions supported by observations. | Most inferences or conclusions supported by observations. | All or almost all inferences or conclusions supported by observations. |
| **Communication** | | | | |
|  | The Student | | | |
| **Uses Proper terminology with respect to lens, ray diagrams and optics.** | Uses the proper terminology with limited accuracy. | Uses the proper terminology with some accuracy. | Uses the proper terminology with considerable accuracy. | Uses the proper terminology with a high degree of accuracy. |
| **Application** | | | | |
|  | The Student | | | |
| **Identification of potential applications for the lenses for real world use.** | Rarely identifies potential applications to real world situations. | Occasionally identifies potential applications to real world situations. | Regularly identifies potential applications to real world situations. | Consistently identifies potential applications to real world situations. |